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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/054,845	01/25/2002	Shachar Katz	218818US-2	7743

22850 7590 11/28/2005

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EXAMINER	
NGUYEN, BINH QUOC	

ART UNIT	PAPER NUMBER
2664	

DATE MAILED: 11/28/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/054,845	KATZ, SHACHAR	
	Examiner	Art Unit	
	Binh Q. Nguyen	2664	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE *03* MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *01/25/2002*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-36* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-36* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/29/02, 9/15/04,* 4/14/05, and 5/23/05.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. **Claims 2-10, 12-17, 19-27, and 29-34** are objected to because of the following informalities:

Term "A" on line 1 of those claims must be changed to "--The--". Appropriate correction is required.

Claims 18, 20-23, 25-28, 30-32, and 35-36 are objected to because of the following informalities:

Term "adapted" on those claims is not clear, therefor the terms after adapted will not consider. Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

3. Claims **1-36** are rejected under 35 U.S.C. 102(e) as being anticipated by ***Gai*** the US Patent No: (US 6,678,241).

Regarding claim 1. ***Gai*** teaches a method for eliminating loops in a communication network, which includes nodes mutually connected by network segments *(see Fig. 2, and Fig. 3, col. 10, lines 36-67)*, the method comprising:

configuring the nodes to operate as virtual bridges, having virtual ports that link the virtual bridges one to another over respective virtual connections, each of the virtual connections coinciding respectively with one or more of the network segments *(see col. 10, lines 36-67, and col. 13, lines 3-17 "N is the number of nodes" means the nodes);*

assigning to the virtual ports respective port costs that are responsive to a count of the network segments with which the respective virtual connections coincide, so as to favor virtual paths between pairs of the nodes that are made up of a greater number of the virtual connections, relative to the virtual paths that are made up of a lesser number of the virtual connections *(see col. 11, lines 1-31)*;

computing respective path costs for the virtual paths, based on the port costs *(see col. 11, lines 13-16)*; and

selecting the virtual connections over which to send traffic between the virtual bridges responsive to the path costs *(see col. 11, lines 14-31).*

Regarding claim 2. ***Gai*** teaches a method according to claim 1, wherein the nodes and segments are configured in a ring topology *(see col. 5, line 16-51).*

Regarding claim 3. ***Gai*** teaches a method according to claim 2, wherein selecting the virtual connections comprises selecting the virtual connections so that the virtual connections over which the traffic is sent define simple paths conforming to the ring topology *(see col. 2, lines 17-32, and col. 5, lines 43-51, and col. 11, lines 1-31).*

Regarding claim 4. ***Gai*** teaches a method according to claim 1, wherein selecting the virtual connections comprises blocking one or more of the virtual connections so that for each of the network segments, there is only a single one of the virtual connections coinciding with it over which the traffic is sent *(see col. 12, line 55-67, and col. 5, lines 43-51, and col. 11, lines 1-31).*

Regarding claim 5. ***Gai*** teaches a method according to claim 4, wherein blocking the one or more of the virtual connections comprises, when a first virtual connection between a first virtual bridge and a second virtual bridge overlaps a sequence of two or more virtual connections between the first virtual bridge, one or more intermediate virtual bridges, and the second virtual bridge, blocking the first virtual connection *(see col. 15, lines 25-50).*

Regarding claim 6. ***Gai*** teaches a method according to claim 1, wherein configuring the nodes comprises configuring the virtual bridges to convey the traffic therebetween using a label-switching protocol *(see col. 7, lines 18-35, col. 4, line 60-to-col. 5, line 13, and col. 6, lines 48-65IEEE 802.1Q standard means label-swiching protocol, see more on your background of the invention (par. 0006-0020)).*

Regarding claim 7. ***Gai*** teaches a method according to claim 6, wherein configuring the virtual bridges comprises arranging the virtual bridges to provide a transparent local area network service (TLS) using the label-switching protocol *(see col. 7, lines 18-35, IEEE 802.1Q standard means label-swiching protocol, see more on your background of the invention (par. 0006-0020)).*

Regarding claim 8. ***Gai*** teaches a method according to claim 7, wherein selecting the virtual connections comprises running a spanning tree protocol (STP) on the TLS *(see col. 4, line 60-to-col. 5, line 13, and col. 6, lines 48-65).*

Regarding claim 9. ***Gai*** teaches a method according to claim 1, wherein assigning the respective port costs comprises setting each of the port costs equal to a first constant times the count of the network segments with which the respective virtual connections coincide, less a second constant *(see col. 11, lines 1-31).*

Regarding claim 10. ***Gai*** teaches a method according to claim 9, wherein computing the respective path costs comprises summing the port costs of the virtual connections making up the virtual paths, so that each of the path costs is equal to the first constant times the count of the network segments with which the respective virtual connections making up the virtual paths coincide, less the second constant times the number of the virtual connections making up the virtual paths *(see col. 11, lines 1-31, and col. 5, lines 16-51).*

Regarding claim 11. ***Gai*** teaches a method for eliminating overlap in a communication network, which includes nodes mutually connected by network segments, the method comprising:

configuring the nodes to operate as virtual bridges having virtual ports that link the virtual bridges one to another over respective virtual connections, each of the virtual connections coinciding respectively with one or more of the network segments *(see col. 10, lines 36-67, and col. 13, lines 3-17 "N is the number of nodes" means the nodes)*;

selecting the virtual connections over which to send traffic between the virtual bridges such that when a first virtual connection between a first virtual bridge and a second virtual bridge overlaps a sequence of two or more other virtual connections between the first virtual bridge, one or more intermediate virtual bridges, and the second virtual bridge, the first virtual connection is blocked, and the traffic is sent over the sequence of virtual connections *(see col. 11, lines 1-31, and col. 15, lines 25-50).*

Regarding claim 12. ***Gai*** teaches a method according to claim 11, wherein the nodes and segments are configured in a ring topology *(see col. 5, line 16-51).*

Regarding claim 13. ***Gai*** teaches a method according to claim 12, wherein selecting the virtual connections comprises selecting the virtual connections so that the virtual connections over which the traffic is sent define simple paths conforming to the ring topology *(see col. 2, lines 17-32, and col. 5, lines 43-51, and col. 11, lines 1-31).*

Regarding claim 14. ***Gai*** teaches a method according to claim 11, wherein selecting the virtual connections comprises blocking at least the first virtual connection so that for each of the network segments, there is only a single one of the virtual connections coinciding with it over which the traffic is sent *(see col. 12, line 55-67, and col. 5, lines 43-51, and col. 11, lines 1-31).*

Regarding claim 15. ***Gai*** teaches a method according to claim 11, wherein configuring the nodes comprises configuring the virtual bridges to convey the traffic therebetween using a label-switching protocol *(see col. 7, lines 18-35, col. 4, line 60-to-col. 5, line 13, and col. 6, lines 48-65IEEE 802.1Q standard means label-swiching protocol, see more on your background of the invention (par. 0006-0020)).*

Regarding claim 16. A method according to claim 15, wherein configuring the virtual bridges comprises arranging the virtual bridges to provide a transparent local area network service (TLS) using the label-switching protocol *(see col. 7, lines 18-35, IEEE 802.1Q standard means label-swiching protocol, see more on your background of the invention (par. 0006-0020)).*

Regarding claim 17. ***Gai*** teaches a method according to claim 16, wherein selecting the virtual connections comprises running a spanning tree protocol (STP) on the TLS *(see col. 4, line 60-to-col. 5, line 13, and col. 6, lines 48-65).*

Regarding claims 18, and 28. ***Gai*** teaches a device for operation as one of a plurality of nodes in a communication network, in which the nodes are mutually connected by network segments, the device comprising:

one or more ports, adapted to send and receive traffic through the communication network *(see col. 6, lines 28-47)*; and

a traffic processor *(see col. 13, lines 3-17, item "port configuration entity 314" means a traffic processor)*, configured to process the traffic so that the device operates as a virtual bridge, having virtual ports that link the device to other virtual bridges in the network over respective virtual connections, each of the virtual connections coinciding respectively with one or more of the network segments *(see col. 10, lines 36-67, "N is the number of nodes" means the nodes),*

wherein the traffic processor is adapted to assign to the virtual ports respective port costs that are responsive to a count of the network segments with which the respective virtual connections coincide, so as to favor virtual paths between pairs of the nodes that are made up of a greater number of the virtual connections, relative to the virtual paths that are made up of a lesser number of the virtual connections, to compute respective path costs for the virtual paths, based on the port costs, and to select the virtual connections over which to send the traffic between the virtual bridges responsive to the path costs *(see col. 11, lines 1-31)*.

Regarding claims 19, and 29. ***Gai*** teaches a device according to claim 18, wherein the nodes and segments are configured in a ring topology *(see col. 5, line 16-51)*.

Regarding claims 20, and 30. ***Gai*** teaches a device according to claim 19, wherein the traffic processor is adapted to select the virtual connections so that the virtual connections over which the traffic is sent define simple paths conforming to the ring topology *(see col. 2, lines 17-32, and col. 5, lines 43-51, and col. 11, lines 1-31)*.

Regarding claims 21, and 31. ***Gai*** teaches a device according to claim 18, wherein the traffic processor is adapted to block one or more of the virtual connections so that for each of the network segments, there is only a single one of the virtual connections coinciding with it over which the traffic is sent *(see col. 12, line 55-67, and col. 5, lines 43-51, and col. 11, lines 1-31)*.

Regarding claim 22. ***Gai*** teaches a device according to claim 21, wherein the traffic adapter is adapted to block the one or more of the virtual connections such that, when a first virtual connection between a first virtual bridge and a second virtual bridge overlaps a sequence of two or more virtual connections between the first virtual bridge, one or more intermediate virtual bridges, and the second virtual bridge, the first virtual connection is blocked *(see col. 15, lines 25-50)*.

Regarding claims 23, and 32. ***Gai*** teaches a device according to claim 18, wherein the traffic processor is adapted to convey the traffic through the ports using a label-switching protocol *(see col. 7, lines 18-35, col. 4, line 60-to-col. 5, line 13, and col. 6, lines 48-65, "IEEE 802.1Q*

standard" means label-swiching protocol, see more on your background of the invention (par. 0006-0020)).

Regarding claims 24, and 33. ***Gai*** teaches a device according to claim 23, wherein the virtual bridges are arranged to provide a transparent local area network service (TLS) using the label-switching protocol *(see col. 7, lines 18-35, "IEEE 802.1Q standard" means label-swiching protocol, see more on your background of the invention (par. 0006-0020)).*

Regarding claims 25, and 34. ***Gai*** teaches a device according to claim 24, wherein the traffic processor is adapted to select the virtual connections by running a spanning tree protocol (STP) on the TLS *(see col. 4, line 60-to-col. 5, line 13, and col. 6, lines 48-65).*

Regarding claim 26. ***Gai*** teaches a device according to claim 18, wherein the traffic processor is adapted to set each of the port costs equal to a first constant times the count of the network segments with which the respective virtual connections coincide, less a second constant *(see col. 11, lines 1-31).*

Regarding claim 27. ***Gai*** teaches a device according to claim 26, wherein the traffic processor is adapted to compute the respective path costs by summing the port costs of the virtual connections making up the virtual paths, so that each of the path costs is equal to the first constant times the count of the network segments with which the respective virtual connections making up the virtual paths coincide, less the second constant times the number of the virtual connections making up the virtual paths *(see col. 11, lines 1-31, and col. 5, lines 16-51).*

Regarding claim 35. ***Gai*** teaches a communication network comprising a plurality of nodes and network segments connecting the nodes in a ring topology *(see col. 5, line 16-51),*

wherein the nodes are adapted to send and receive traffic over the segments *(see col. 15, lines 51-61)* and to process the traffic so as to operate as virtual bridges, having virtual ports that link each of the nodes to other virtual bridges in the network over respective virtual connections, each of the virtual connections coinciding respectively with one or more of the network segments *(see col. 10, lines 36-67, "N is the number of nodes" means the nodes),*

and wherein the nodes are further adapted to assign to the virtual ports respective port costs that are responsive to a count of the network segments with which the respective virtual connections coincide, so as to favor virtual paths between pairs of the nodes that are made up of a greater number of the virtual connections, relative to the virtual paths that are made up of a lesser number of the virtual connections, and to compute respective path costs for the virtual paths, based on the port costs, and to select the virtual connections over which to send the traffic between the virtual bridges responsive to the path costs *(see col. 11, lines 1-31)*.

Regarding claim 36. ***Gai*** teaches a communication network comprising a plurality of nodes and network segments connecting the nodes in a ring topology *(see col. 5, line 16-51)*,

wherein the nodes are adapted to send and receive traffic over the segments *(see col. 15, lines 51-61)* and to process the traffic so as to operate as virtual bridges, having virtual ports that link each of the nodes to other virtual bridges in the network over respective virtual connections, each of the virtual connections coinciding respectively with one or more of the network segments *(see col. 10, lines 36-67, "N is the number of nodes" means the nodes)*,

and wherein the nodes are further adapted to select the virtual connections over which to send traffic between the virtual bridges such that when a first virtual connection between a first virtual bridge and a second virtual bridge overlaps a sequence of two or more other virtual connections between the first virtual bridge, one or more intermediate virtual bridges, and the second virtual bridge, the first virtual connection is blocked, and the traffic is sent over the sequence of virtual connections *(see col. 11, lines 1-31)*.

Contact Information

4. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Binh Q. Nguyen whose telephone number is 571-272-8563. The examiner can normally be reached on M-F: 9:00 AM - 5:30 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Wellington Chin can be reached on 571-272-3134. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Respectfully submitted,

By: Q Binh

Binh Q. Nguyen
Patent Examiner
11/26/2005

WELLINGTON CHIN
SUPERVISORY PATENT EXAMINER